Volume Contents

Volume 4 Number 1

S. R. KIM, D. HAN and Z. BIEN	1	Design and implementation of an automatic adjustment system for integrated tube components
R. N. DANBURY	25	Servomechanisms for incremental motion—power dissipation considerations
D.-I. KIM, J. W. JEON and S. KIM	37	Software acceleration/deceleration methods for industrial robots and CNC machine tools
C. R. ALLEN and K. RATCLIFF	55	A CAD method for programming a flexible manufacturing cell for robot inspection of mechanical parts
Y. N. LEE, T. W. KIM and I. H. SUH	71	A look-up table-based self-organizing fuzzy plus linear controller
	91	Call for Papers
	93	Conference Announcement
	95	Inauguration Announcement
	I	Instructions for the submission of camera-ready copy

Volume 4 Number 2

SPECIAL ISSUE

MECHATRONICS IN SWEDEN

J. WIKANDER	97	Editorial
K. J. ÅSTRÖM, A. CARLSSON and J. KANNIAH	99	A flexible system for adaptive motion control
K. PAHLAVAN and J.-O. EKLUNDH	113	Mechatronics of active vision
C. DURING	125	Real-time optical measurement of position
R. W. UUSIJÄRVI and M. E. TÖRNGREN	139	Introducing distributed control in mobile machines based on hydraulic actuators
L.-B. FREDRIKSSON	159	Controller area networks and the protocol CAN for machine control systems
O. DAHL	173	Path constrained robot control—experimental evaluation

K. Hyyppä	199	Design considerations in a laser navigation system for mobile robots
M. Lizell	207	An actuator for semi-active damping system
M. Hanson	217	Teaching mechatronics at tertiary level
	227	Call for Papers
	229	Conference Announcement
	I	Instructions for the submission of camera-ready copy

Volume 4 Number 3

J. R. Hewit	231	Editorial
R. A. Hirschfeld, T. W. Liao and L. K. Keys	233	Mechatronics education developments in the United States: the perspective from Louisiana State University
R. L. Vasquez and R. H. Cannon, Jr	247	Experiments in cooperative manipulation from a flexibly-mounted platform
J. N. Reed and R. D. Tillett	265	Initial experiments in robotic mushroom harvesting
J. A. Marchant and R. D. Tillett	281	Software and transputer system design for high speed grading of agricultural produce
F. Figueroa and A. Mahajan	295	Generic model of an autonomous sensor
C. A. Paterson, K. J. Burnham, D. J. G. James and R. A. Williams	317	A fixed parameter optimal controller design for an active suspension system—a sensitivity analysis
Technical Note L. Montret, H. Ekerol and D. C. Hodgson	331	Object tracking at field rate using the Hough transform
	339	Report on Meeting
	341	Call for Papers
	343	Conference Announcements
	I	Instructions for the submission of camera-ready copy

Volume 4 Number 4

E. Swain	349	Turbocharging the submarine diesel engine
C. L. Hwang and C. H. Lan	369	The position control of electrohydraulic servomechanism via a novel variable structure control

F. K. FADUL and R. P. KRAHE 393 A DSP-based power integrated circuit controller/driver board for stepper motors

D. HR. STEFANOV 401 Model of a special orthotic manipulator

D. INDYK and S. A. VELASTIN 417 Survey of range vision systems

451 Announcing Book Reviews

453 Book Review

I Instructions for the submission of camera-ready copy

Volume 4 Number 5

DONG-IL KIM and JIN-WON LEE 455 Commutation of permanent magnet A.C. servo motors with incremental encoders via fuzzy reasoning

C. M. LIM 471 Implementation and experimental studies of fuzzy PID controllers

T. J. TARN, A. K. BEJCZY, NING XI and A. K. RAMADORAI 481 Distributed control architecture for a sensor-driven dual arm system

T. G. KING and L. G. TAO 503 An incremental real-time pattern tracking algorithm for line-scan camera application

J. SOMLO and J. PODURAJEV 517 Optimal cruising trajectory planning for robots

C. UME and M. TIMMERMAN 539 Integrated hardware and software designs in mechatronics laboratory courses

551 Announcing Book Reviews

I Instructions for the submission of camera-ready copy

Volume 4 Number 6

B. Y. DUAN, Y. H. QI, G. H. XU and W. T. WANG 553 Study on optimization of mechanical and electronic synthesis for the antenna structural system

SHIUH-JER HUANG and CHUEN-CHUNG CHEN 565 A self-tuning adaptive feed-forward control for a retrofit milling machine

KOK-MENG LEE, JIANFA PEI and R. ROTH 581 Kinematic analysis of a three-degrees-of-freedom spherical wrist actuator

O. S. TÜRKAY 607 An expert system to control humidity and temperature of a laboratory scale greenhouse

N. Sepehri, F. L. K. Wan, P. D. Lawrence and G. A. M. Dumont — 617 — Hydraulic compliance identification using a parallel genetic algorithm

Woosoon Yim — 635 — Cartesian trajectory control of a flexible manipulator using sliding mode

I — Instructions for the submission of camera-ready copy

Volume 4 Number 7

N. D. Tillett, N. Vaughan and A. Bowyer — 653 — An improved flexible pneumatic joint for horticultural robots

O. H. Chai, Y. S. Wong and A. N. Poo — 673 — A DDA parabolic interpolator for computer numerical control of machine tools

T. H. Lee, Q. G. Wang and W. K. Tan — 693 — A framework for robust neural network-based control of non-linear servomechanisms

C. D. Wright and K. Case — 713 — Emulation of modular manufacturing machines using CAD modelling

P. M. Hagelin and J. R. Hewit — 737 — Artificial neural networks for locating eyes in facial images

J. Taramaa, R. Lintulampi and V. Seppänen — 753 — Automated assembly of machine control software

771 — Conference Announcement

I — Instructions for the submission of camera-ready copy

Volume 4 Number 8

N. J. C. Strachan — 773 — Sea trials of a computer vision based fish species sorting and size grading machine

J. Y. Hung — 785 — Torque ripple minimization for variable reluctance motors

K. C. Koh and H. S. Cho — 799 — A path tracking control system for autonomous mobile robots: an experimental investigation

A. Preumont — 821 — An investigation of the kinematic control of a six-legged walking robot

R. Ikeura, M. Kimura, H. Inooka and T. Kamijima — 831 — Motion planning for computer controlled automata

C. ZIELIŃSKI — 843 Reaction based robot control

P. VÄHÄ, T. HEIKKILA, J. RÖNING and J. OKKONEN — 861 Machine of the future: an intelligent paper roll manipulator

879 Calls for Papers

I Volume Contents and Author Index for Volume 4, 1994

XI Instructions for the submission of camera-ready copy